

polyurethane insulating foams to be flame retardant.

28. (Amended) A pressure can for discharging [1C] one component polyurethane insulating foams, characterized in that the composition comprises a prepolymer composition of Claim 15.

29. (Amended) A prepolymer composition for producing polyurethane insulating foams with fire-retardant properties from pressure tanks, which prepolymer composition comprises: a prepolymer component with at least one polyurethane (PU) prepolymer with a content of NCO groups of 4 to 20 wt%, and a propellant component, characterized in that the prepolymer component is halogen-free and has a content of 5 to 40 wt%, based on the prepolymer component, of softening phosphates and/or phosphonates with the formulae  $O=P(OR)_3$  and  $O=P(OR)_2R$ , wherein R, identically or differently, is alkyl, aryl, alkyl aryl or arakyl having up to 10 carbon atoms, wherein the polyurethane prepolymer comprises one prepared by the reaction of aliphatic or aromatic polyisocyanates with castor oil having a hydroxyl number of between about 100 to 300.

#### REMARKS

Applicants have further amended the claims to reflect the pressure can and composition, for pending Claims 1-28 in the present invention. These claims have been amended to better explain and describe the present invention.

No new matter has been added to the application.

We now turn to the specific rejections.

#### CONTINUING STATUS

The Examiner states that:

"Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification (37 CFR 1.78)."

Applicants have added the suggested text to the specification to overcome this requirement.

Therefore this objection has been overcome and should be withdrawn.

REJECTION OF CLAIMS 16, 25 AND 27 UNDER 35 U.S.C. 101 and 112 (2nd)

Claims 16, 25, and 27 are rejected under 35 U.S.C. 101 and 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states that:

“A user cannot be considered to be a statutory class of invention.”

“If applicants intend to claim a process of using, then the claims are indefinite because they fail to recite definitive process steps.”

Applicants have extensively amended the claims and the use has been removed.

Therefore this rejection has been overcome.

Reconsideration and withdrawal is respectfully requested.

REJECTION OF CLAIMS 1-28 UNDER 35 U.S.C. 112 (2nd)

Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states that:

“Firstly, the terminology, “usual additives,” of claim 1 renders indefinite, because the terminology is subjective.

Secondly, the terminology, “as well as,” of claim 1 renders the claims indefinite. The examiner suggests “and”.

Lastly, it is unclear what is meant by “substantially halogen-free”. Exactly how does “substantially halogen-free” differ from “halogen-free”?”

Applicants respectfully traverse this rejection.

These claims have been amended as suggested by the Examiner. Therefore, these rejections have been overcome.

Reconsideration and withdrawal is respectfully requested.

REJECTION OF CLAIMS 2-9 AND 18-23 UNDER 35 U.S.C. 112 (2nd)

Claims 2-9 and 18-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states that:

“Firstly, the amendment to claim 2 is unclear, because the first bracket is missing. Also, claims 2 and 22 are not grammatically correct.

Secondly, with respect to claims 7, 8, and 21, it is unclear how the polybutadiene relates to the prepolymer. Does the prepolymer contain the polybutadiene?

Thirdly, no basis for each of the claimed weight percent values has been provided within claims 7, 9, 21 and 22.”

Applicants respectfully traverse this rejection.

These claims have been amended as suggested by the Examiner. Therefore, these rejections have been overcome.

Reconsideration and withdrawal is respectfully requested.

REJECTION OF CLAIMS 2-6 AND 19 UNDER 35 U.S.C. 112 (2nd)

Claims 2-6 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states that:

“Within claims 2, 3, 5 and 19, it is unclear how the respective components are “based” on the recited species. The use of “based” renders the claims indefinite.”

Applicants respectfully traverse this rejection.

These claims have been amended as suggested by the Examiner. Therefore, these rejections have been overcome.

Reconsideration and withdrawal is respectfully requested.

REJECTION OF CLAIMS 4, 5 and 18-20 UNDER 35 U.S.C. 112 (1st)

Claims 4, 5, and 18-20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The Examiner states that:

“The claims fail to recite the type of molecular weight (i.e., number average, weight average, etc.); therefore, one of ordinary skill could not adequately determine the properties of the polyols or how to duplicate them.”

RESPONSE: One of skill in the art could select the polymer from commercial sources.

“Since Claim 5 is a multiple dependent claim, the subject matter of Claims 5 (when dependent on 4) and 19 is objected to as being identical.”

Applicants respectfully traverse this rejection.

These claims have been amended as suggested by the Examiner. Therefore, these rejections have been overcome.

Reconsideration and withdrawal is respectfully requested.

REJECTION OF CLAIMS 7, 8, 12, 13, 21 and 26 UNDER 37 CFR 1.75 (c)

Claims 7, 8, 12, 13, 21 and 26 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

The Examiner states that:

“Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In view of the language, “consists of”, within claim 1, the position is taken that applicants’ claims are closed to the inclusion of additional components; therefore, the materials of the aforementioned claims are excluded and, as a result, the claims fail to be further limiting.”

Applicants respectfully traverse this rejection.

These claims have been amended as suggested by the Examiner. Therefore, these rejections have been overcome.

Reconsideration and withdrawal is respectfully requested.

REJECTION OF CLAIMS 5, 11, 19 and 24 UNDER 35 U.S.C. 112 (2nd)

Claims 5, 11, 19 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner state that:

“Firstly, within claims 5 and 19, the significance of the word, “native”, is unclear.

Secondly, the use of the language, “preferably” and “in particular”, renders the claims indefinite, because it cannot be determined if or to what extent the language modifies the preceding language.

Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language, “the composition”, lacks antecedent basis. Furthermore, there is no requirement that the can contains the prepolymer composition; the claim is simply drawn to a can.”

Applicants respectfully traverse this rejection.

The specification and these claims have been amended as suggested by the Examiner.

Therefore, these rejections have been overcome.

Reconsideration and withdrawal is respectfully requested.

REJECTION OF CLAIMS 1-28 UNDER 35 U.S.C. 112 (1st)

Claims 1-28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Examiner states that:

“It is not clear what “1C”, “1.5C”, and “2C” refers to, as presented within the specification.

Furthermore, “1C” is present within claims 17 and 28.”

Applicants respectfully traverse this rejection.

These claims have been amended as suggested by the Examiner. Therefore, these rejections have been overcome.

Reconsideration and withdrawal is respectfully requested.

DOUBLE PATENTING

The Examiner states that:

“Claims 1-28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 16-37 of copending Application No. 09/058,901. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of claims is drawn to a prepolymer composition having equivalent NCO contents and overlapping components. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.”

When claims are to be allowed, Applicants will file a terminal disclaimer if it is needed.

JOINT INVENTORS

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Applicants will examine this as needed.

REJECTION OF CLAIMS 1-5, 9-19 and 25-28 UNDER 35 U.S.C. 103 (a)

Claims 1-5, 9-19 and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pauls ('412) in view of Falkenstein et al. ('313).

Pauls discloses a storage stable polyurethane prepolymer composition, having an NCO content of 5 to 25 percent by weight, which may be dispensed from a pressure can to yield a dimensionally stable foam. See abstract and columns 2-4.

Pauls is silent regarding the use of the phosphorous containing compounds as softeners; however, the use of such compounds within polyurethane foam formulations was known at the time of the invention. Falkenstein et al. teach at column 3, lines 59-66 that the use of phosphorous containing compounds soften the foam and increase flame resistance.

Therefore, one of ordinary skill in the art would have been motivated to utilize the claimed phosphorous containing compounds within the Pauls composition, so as to obtain a foam having both decreased brittleness (increased softness) and improved flame resistance. The fact that the compounds function in a dual capacity provides further motivation for their use.”

Applicants respectfully traverse this rejection.

Paul never teaches the use of phosphorous containing compounds.

Friedman generally teaches the use of phosphorus containing compounds as polymer components to provide flame resistance for polyurethane. In contrast, Applicants' have small phosphorus compounds as additives. Friedman leads one of skill in the art away from the present invention.

There is no suggestion or teaching to combine these references.

Therefore this rejection has been overcome.

Recommendation and withdrawal of this rejection is respectfully requested.

#### REJECTION OF CLAIMS 6-8, 20 and 21 UNDER 35 U.S.C. 103 (a)

Claims 6-8, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pauls ('412) in view of Falkenstein et al. ('313) as applied to claims 1-5, 9-19 and 22-28 above, and further in view of Friedman ('827) and either Nichols et al. ('646) or Burkhardt et al. ('270 or '566).

As aforementioned within paragraphs 18-20, the combined teachings of Pauls and Falkenstein et al. are considered to render the use of phosphorous containing softening agents within pressure can dispensable polyurethane prepolymers *prima facie* obvious; however, the references are silent regarding the specific use of phosphorous containing polyols and polybutadienes. Friedman teaches the use of phosphorous containing polyols to provide flame resistance to polyurethanes and Nicols et al. disclose at column 1, lines 33-35 the use of polybutadienes as cell opening agents for polyurethane foams. The polybutadienes of Nichols et al. are considered to include liquids, because patentees refer to them as bleeding out, giving the foam an oily feel, at column 1, lines 50 and 51. Furthermore, Burkhardt et al. disclose the use of liquid polybutadienes as molds release agent and cell opening agents. See abstracts.

Therefore, one of ordinary skill in the art seeking a pressure can dispensable prepolymer capable of yielding a foam of improved softness, flame resistance, and dimensional stability would have been motivated to utilize the flame retarding phosphorous polyols of Friedman and the polybutadienes of Nichols et al. or Burkhardt et al. with the teachings of Pauls and Falkenstein et al., so as to arrive at the instant invention.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

The references were cited and supplied to applicants during prosecution of the parent



application.'

Applicants Respectfully traverse this rejection.

The Examiner has rejected Claims 1, 3, 7-17 and 21-21-29 under U.S.C. 103(a) as being unpatentable over Pauls ('412) in view of Falkenstein et al ('313) and Friedman ('827) and Burkhart et al ('270 or '566) citing each reference for its individual teaching and then combining them alleging that a "prima facia" cases of obviousness has been made.

The Examiner has cited each of the references for its specific teaching as listed above and except that Friedman teaches that his phosphorus containing compounds must have reactive hydroxyl groups which react to incorporate the Phosphorus containing group into the polyurethane matrix unlike Applicant's non-reactive phosphorous containing fire retardant compounds. The Burkhart et al. '566 is not prior art applicants invention due to applicants foreign filing date and the filed certified translation of the foreign application. The Examiner's statements of the references individual teachings are essentially correct.

Applicant respectfully urges that the Examiner's position that has made a valid prima facia case of obviousness is in error.

Although the cases cited by examiner hold that it is prima facia obvious to use a compound for its known function as the examiner has stated in each of In re Hiner, 173USPO356 and in re Dial et al. 140 USPQ244 those references specifically suggested combining the claimed elements.

In Applicant case there is no such suggestion in any of the cited references that all of the elements of applicants novel combination could be combined. It has been held in *Custom Accessories Inc. v Jeffrey-Allan Industries, Inc.* 1 U.S.P.Q.2d 1196 (Fed. Cir. 1986) that "casting an invention as 'a combination of old elements' leads improperly to an analysis of the claimed invention by the parts, not by the whole. The critical inquiry is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. A traditional problem with focusing on a patent as a combination of old elements is the attendant notion that patentability is undeserving without some 'synergistic' or 'different' effect. Here, the district court spoke of the need for 'a new and useful result.' Such tests for patentability have been soundly rejected by this court. Though synergism is relevant when present, its 'absence has no place in evaluating the evidence on obviousness.' *Custom Accesories inc. v. Jeffrey-Allan industries, inc.*, 1 U.S.P.Q.2d 1196 (Fed. Cir. 1986)."

The examiner has therefor not made out a prima facia case of obviousness and no comparative data can be required on this record.



In *In re Geiger*, 2 U.S.P.Q. 2d 1276 (Fed. Cir. 1987) it was held that “although the fact that each of the three components of the composition used in the claimed method was conventionally employed in the art for treating cooling water systems, to employ these components in combination for their known functions and to optimize the amount of each additive were not regarded as obvious. Obviousness cannot be established by combining the teachings of the prior art to produce a claimed invention, absent some teaching, suggestion or incentive supporting the combination. At best, in view of the prior art, one skilled in the art might find it obvious to try various combinations of these known scale and corrosion prevention agents. This not the standard of 35 U.S.C. §103. *In re Geiger*, 2 U.S.P.Q.2d 1276 (Fed. Cir.1987).”

In this case there is no teaching, suggestion or incentive supporting examiners combination of prior art.

The Examiner has shown no suggested combination of the cited references other than Applicants own specification. Examiner’s obvious-to-experiment standard has been held no acceptable in *In re Dow Chemical* to 5 U.S.P.Q.2d 1529 Fed. Cir. 1988). That case held that “an obvious-to-experiment standard is not an acceptable alternative for obviousness. Selective hindsight is no more applicable to the design of experiments than it is to the combination of prior-art teachings. There must be a reason or suggestion in the art for selecting the procedure used, other than the knowledge learned from the applicant’s disclosure. *In re Dow Chemical Co.*, 5 U.S.P.Q.2d 1529 (Fed. Cir. 1988).”

Thus this case Examiner has failed to make out a prima facie case of obviousness on this record, with or without, *Burkhart et al* (‘566)

#### SUMMARY

Based on the above amendments and arguments, Applicants argue that the present claims are of a form and a scope for allowance. Prompt notification thereof is respectfully requested.

Applicant has amended the claims to overcome the §112 rejections and has shown that Examiner has failed to make out a prima facie case of obviousness under §35 U.S.C. 103. Therefore Applicant respectfully requests that these rejections be withdrawn and that in view with the terminal disclaimer filed herein that this case is in condition for allowance.

Applicants respectfully request allowance of Claims 1-29 and that this case be passed to issue.

A Petition for Extension of Time and Fee are enclosed.

Applicants will consider any Examiner's amendments which will advance this application to issue.

The Examiner is requested to call the undersigned at (650) 324-1677 with any comments or questions.

Respectfully submitted,

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Enclosure

Petition for Extension of Time and Fee (2 mo.)

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